



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,686	09/28/2006	Takanori Sato	Q96827	2142
23373	7590	04/07/2008	EXAMINER	
SUGHRUE MION, PLLC			PENG, CHARLIE YU	
2100 PENNSYLVANIA AVENUE, N.W.				
SUITE 800			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20037			2883	
			MAIL DATE	DELIVERY MODE
			04/07/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/594,686	SATO ET AL.	
	Examiner	Art Unit	
	CHARLIE Y. PENG	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
 - 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-4 and 6-12 is/are rejected.
- 7) Claim(s) 5 is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 September 2006 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date <u>09/28/2006</u> .	6) <input type="checkbox"/> Other: ____ .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6-9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan patent publication 06-239536 to Koide et al. in view of U.S. Patent 7,031,582 to Nakamura et al. Koide teaches a method of making an optical fiber by winding the fiber on a bobbin, wherein tension is applied to the fiber to wind the fiber around a bobbin used to keep and convey the optical fiber; and wherein the periphery 2 of an elastic cylindrical material, such as sponge, is compressed to 2' shown by a dotted line in Drawing 1. [0005] Koide further states that the method prevents "certainly volume collapse", i.e., shrinkage, of optical fiber wound around the bobbin due to "temperature change in the fixed range permitted during storage and conveyance." [0001] Although Koide does not give a specific range of desired shrinkage, it is clearly the goal of the invention to limited shrinkage of optical fibers. Nakamura teaches an optical fiber 12 which can be produced by publicly known methods such as melt-spinning method, wherein the fiber 12 exhibits a shrinkage ratio of 0 to 0.5% when heated. It would have been obvious to one of ordinary skill in the art at the time the invention was made to test the optical fiber just after the winding process to ensure the

fiber has a low shrinkage ratio, as is suggested by Nakamura and desired by Koide's invention.

3. With specific reference to claim 2, Koide's example ([0006]) uses an optical fiber described as "a= 1.1 mm in width of an optical fiber wire". Although the diameter stated is slightly larger than that claimed, since the applicant has not pointed to any particular criticality of the claimed diameter to the invention, and further since it is known in the art POF typically has diameter in the range of 750-2000 microns, it would have been obvious to anyone skilled in the art to select an appropriate diameter as required by desired application. *In re Hoeschele*, 106 USPQ 809. Applicant may traverse this rejection by a showing of unexpected results.

4. With specific reference to claim 3, Koide example use a rolling-up (winding) tension of 150g. On a fiber with diameter of 1100 microns, this is equivalent to a 1.55 MPa.

5. With specific reference to claim 4, it would have been obvious to one skill in the art to adjust the winding tension as needed, since the manufacturing process can never be perfectly set up to the extend that no adjustment is necessary. Even identical setups cannot guarantee identical products, and it is the properties of the end product (the optical fiber) that will determine whether adjustment to winding tensions would necessary.

6. With specific reference to claim 7, Koide refers to an elastic cylindrical material such as sponge around the bobbin but does not specify its hardness. Since the applicant has not pointed to any particular criticality of the claimed hardness to the

invention, and further since Koide already pointed to the usefulness of employing a soft material, it would have been obvious to anyone skilled in the art to select an appropriate hardness. *In re Hoeschele*, 106 USPQ 809. Applicant may traverse this rejection by a showing of unexpected results.

7. With specific reference to claims 8 and 9, Koide uses resin but not specifically fluorine or acrylic resin as claimed. Absent unexpected results associated with a previously known material in the invention, selection of the known material on the basis its suitability is not considered patentable. *In re Leshin*, 125 USPQ 416.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koide et al. and Nakamura et al. as applied to claim 1 above and further in view of U.S. Patent 7,059,546 to Andrieu et al. Koide and Nakamura suggest the method of making the optical fiber but not a graded index optical fiber. A graded index optical fiber is a well known type of fiber commonly used for its focusing functions. Andrieu also teaches a method of making a graded index optical fiber by winding in on a bobbin 11. It therefore would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Koide and Nakamura using the method suggested by Andrieu to manufacture a graded index optical fiber for its particular optical applications.

Allowable Subject Matter

9. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art teach the method of making the fiber except for a specific range of adjustment tension. Since the particular range is of importance to

the end product in creating a fiber low transmission loss, it is the examiner's opinion that the prior art of record, taken alone or in combination, fails to disclose or render obvious this range, in combination with the rest of the limitations of the base claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLIE Y. PENG whose telephone number is (571)272-2177. The examiner can normally be reached on 9 am - 6 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charlie Y. Peng/
Patent Examiner, Art Unit 2883